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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/521,797  | 01/21/2005  | Koji Abe             | 740709-531          | 5056             |
| 22204 7590 08/21/2008<br>NIXON PEABODY, LLP<br>401 9TH STREET, NW<br>SUITE 900<br>WASHINGTON, DC 20004-2128 |             |                      |                     |                  |
| EXAMINER  |             |                      |                     |                  |
| CHUO, TONY SHENG HSIANG   |             |                      |                     |                  |
| ART UNIT  |             | PAPER NUMBER         |                     |                  |
| 1795  |             |                      |                     |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/521,797

**Applicant(s)**

ABE ET AL.

**Examiner**

Tony Chuo

**Art Unit**

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/88)  
Paper No(s)/Mail Date 4/29/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 4/29/05 was filed on 4/29/05. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Specification***

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Double Patenting***

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422

F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1, 2, 4, and 6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 6, 8, and 10 of copending Application No. 10/564,852. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1, 2, 4, and 6 of the present application are fully anticipated by claims 1, 6, 8, and 10 of copending Application No. 10/564,852.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

7. Claims 1, 2, 4, 5, and 7 are rejected under 35 U.S.C. 102(a) as being anticipated by Kita et al (JP 2003-132949) and as evidenced by (MatWeb Datasheet – KS6 Primary Synthetic Graphite).

Regarding claims 1, 2, and 4, the Kita reference discloses a nonaqueous secondary battery comprising: a positive electrode, a negative electrode of KS6 synthetic graphite, and a nonaqueous electrolyte solution having an electrolyte dissolved in a nonaqueous solution, wherein 4 wt% of a cyclohexylbenzene having a halogen atom bonded to a benzene ring thereof is contained in the nonaqueous electrolyte solution (See paragraphs [0009],[0019],[0024],[0028]).

Regarding claim 5, it also discloses a nonaqueous solvent of the nonaqueous electrolyte solution that comprises a combination of ethylene carbonate (cyclic carbonate) and methylethyl carbonate (linear carbonate) (See paragraph [0024]).

Regarding claim 7, it also discloses a synthetic graphite that inherently has a lattice distance in terms of  $d_{002}$  of lattice surface (002) that is 0.336 as evidenced by the MatWeb Datasheet.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda et al (US 2002-0192565) in view of Shimizu (US 5709968).

The Ueda reference discloses a nonaqueous secondary battery comprising: a positive electrode, a negative electrode of graphite, and a nonaqueous electrolyte

solution having an electrolyte dissolved in a nonaqueous solvent, wherein 3 vol% cyclohexylbenzene is contained in the nonaqueous electrolyte solution (See paragraphs [0053],[0054],[0068],[0073],[0123],[0124]). It also discloses a nonaqueous solvent that comprises vinylene carbonate (cyclic carbonate) and ethylmethyl carbonate (linear carbonate) (See Table 1). It also discloses a graphite having a structure in which the spacing between (002) lattice planes is 0.340 nm (See paragraph [0068]).

However, Ueda et al does not expressly teach cyclohexyl benzene having a halogen atom bonded to a benzene ring that is a compound having the formula (I); or a cyclohexyl benzene having a halogen atom bonded to a benzene ring that is 1-halogeno-4-cyclohexyl benzene. The Shimizu reference teaches the concept of adding a benzene compound to a nonqueous electrolyte, wherein at least one halogen group A<sub>1</sub> to A<sub>5</sub> is induced into the benzene ring of the benzene compound (See column 3, lines 25-45, column 6, lines 40-45, column 7, lines 3-7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Ueda electrolyte solution to include cyclohexyl benzene having a halogen atom bonded to a benzene ring that is a compound having the formula (I); or a cyclohexyl benzene having a halogen atom bonded to a benzene ring that is 1-halogeno-4-cyclohexyl benzene in order to utilize a benzene compound that has a function of improving the stability of the performance of the battery at high temperatures (See column 7, lines 3-7).

10. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda et al (US 2002-0192565).

The Ueda reference discloses a nonaqueous secondary battery comprising: a positive electrode, a negative electrode of graphite, and a nonaqueous electrolyte solution having an electrolyte dissolved in a nonaqueous solvent, wherein 3 vol% cyclohexylbenzene is contained in the nonaqueous electrolyte solution (See paragraphs [0053],[0054],[0068],[0073],[0123],[0124]). It also discloses a nonaqueous solvent that comprises vinylene carbonate (cyclic carbonate) and ethylmethyl carbonate (linear carbonate) (See Table 1). It also discloses a graphite having a structure in which the spacing between (002) lattice planes is 0.340 nm (See paragraph [0068]).

However, Ueda et al does not expressly teach cyclohexyl benzene having a halogen atom bonded to a benzene ring that is a compound having the formula (I); or a cyclohexyl benzene having a halogen atom bonded to a benzene ring that is 1-halogeno-4-cyclohexyl benzene.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Ueda electrolyte solution to include cyclohexyl benzene having a halogen atom bonded to a benzene ring that is a compound having the formula (I); or a cyclohexyl benzene having a halogen atom bonded to a benzene ring that is 1-halogeno-4-cyclohexyl benzene because the substitution of halogen for hydrogen was held to be obvious (*Ex parte Dole* 119 USPQ 260 (PO BdPatApp 1957)).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Chuo whose telephone number is (571)272-0717.

The examiner can normally be reached on M-F, 9:00AM to 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TC

/Jonathan Crepeau/  
Primary Examiner, Art Unit 1795